AMENDMENTS TO THE CLAIMS

Claims 1-4 (Cancelled)

5. (Original) A library comprising [[two]] 100 or more different probes, each probe ~~distinguishably labeled with at least one carbon nanotube~~ having a unique label attached thereto, each label including at least one carbon nanotube.

6. (Original) The library of claim 5, wherein the probes are oligonucleotides, chemically modified oligonucleotides, oligonucleotide analogs or peptide nucleic acids

7. (Original) The library of claim 5, wherein the probes comprise all possible nucleotide sequences for a probe of defined length.

8. (Original) The library of claim 7, wherein the probe length is selected from the group consisting of 4, 5, 6, 7 and 8 nucleotides.

9. (Original) The library of claim 5, wherein at least one probe is labeled with at least two nanotubes.

10. (Original) The library of claim 5, wherein the probes comprise random nucleotide sequences.

11. (Original) The library of claim 5, wherein the probes comprise at least one constant nucleotide.

12. (Original) The library of claim 5, wherein the probe length is selected from the group consisting of 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 nucleotides.

13. (Original) The library of claim 5, wherein the probe length is greater than 15 nucleotides.

Claims 14-23 (Cancelled)

24. (Currently Amended) The composition of claim 5, wherein the 100 or more different probes comprise from 2000 to 16384 different probes ~~further comprising at least 256 probes distinguishably labeled with nanotubes~~.

25. (Currently Amended) The composition of claim [[LAST]] 5, ~~wherein the nanotubes of the 256 probes have distinguishable emission spectra~~ wherein each unique label has a distinguishable emission spectra.

26. (Currently Amended) The composition of claim 5, ~~further comprising at least 1024 probes having distinguishable emission spectra~~ wherein the 100 or more different probes comprise from 2000 to 16384 different probes, wherein each of the 2000 to 16384 different probes has a unique label attached thereto, wherein each unique label includes at least one carbon nanotube, and wherein each unique label has a distinguishable emission spectra.

27. (Withdrawn) A method comprising:

hybridizing the probes of the library of claim 5 with a nucleic acid; and

exciting the nanotubes of the probes.

28. (Withdrawn) The method of claim 27, wherein exciting the nanotubes comprises exciting the nanotubes with an electron beam.

29. (Withdrawn) The method of claim 27, further comprising detecting emissions from the excited nanotubes.

30. (Withdrawn) The method of claim 29, wherein a distinguishable emission spectrum is detected from the nanotubes attached to each probe.

31. (Withdrawn) The method of claim 30, further comprising identifying the probes based on the detected emissions.

32. (Withdrawn) The method of claim 31, further comprising detecting a sequence of a plurality of probes hybridized to the nucleic acid.

33. (Withdrawn) The method of claim 27, further comprising moving the hybridized nucleic acid past a detector, wherein the hybridized probes move past the detector in a linear sequence.

34. (Withdrawn) The method of claim 33, wherein the hybridized nucleic acid moves past the detector in a microchannel or microcapillary.

35. (Withdrawn) The method of claim 27, further comprising separating unhybridized probes from probes hybridized to the nucleic acid.

36. (Withdrawn) A method comprising:

hybridizing the probes of the library of claim 24 with a nucleic acid; and

exciting the nanotubes of the probes.

37. (Withdrawn) The method of claim 36, further comprising detecting emissions from the excited nanotubes, wherein a distinguishable emission spectrum is detected from the nanotubes attached to each probe.

38. (Withdrawn) The method of claim 37, further comprising identifying the probes based on the detected emissions.

39. (Withdrawn) The method of claim 38, further comprising detecting a sequence of a plurality of probes hybridized to the nucleic acid.

40. (Withdrawn) The method of claim 36, further comprising moving the hybridized nucleic acid past a detector in a microchannel or microcapillary, wherein the hybridized probes move past the detector in a linear sequence.

Claim Objection

The Examiner has objected to claim 25.

Claim 25 has been amended to overcome the objection.

Rejection Under 35 U.S.C. § 112

The Examiner rejects claims 24-26 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claims 24-26 have been amended to overcome the rejections. Support for the amendments is found at least in original claim 2, paragraph [0053], and paragraph [0073].

The Examiner rejects claims 24 and 25 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 24 and 25 have been amended to overcome the rejections.

35 U.S.C. §102(b) Rejection - Fuhrhop

The Examiner has rejected claim 5 under 35 U.S.C. §102(b) as being anticipated by Fuhrhop et al. (*J. Am. Chem. Soc.*, 1993, 115(4), pgs. 1600-1601) (hereinafter referred to as "Fuhrhop"). The Applicants respectfully submit that the present claims are allowable over Fuhrhop.

Claim 5 pertains to a "*library comprising **100 or more different probes**, each probe having a **unique label** attached thereto, each label including at least one carbon nanotube*".

Fuhrhop does not teach or suggest such a library. In particular, Fuhrhop does not teach or suggest **100 or more different probes**, each probe having **a unique label** attached thereto, each label including at least one carbon nanotube. Furthermore, Applicants respectfully submit that the tubules discussed in Fuhrhop are not carbon nanotubes.

For at least these reasons, claim 5 and its dependent claims are believed to be allowable over Fuhrhop.

35 U.S.C. §102(b) Rejection - Fisher

The Examiner has rejected claims 5-13, 24 and 25 under 35 U.S.C. §102(b) as being anticipated by Fisher et al. (WO 96/18059) (hereinafter referred to as "Fisher"). The Applicants respectfully submit that the present claims are allowable over Fisher.

Claim 5 pertains to a "*library comprising **100 or more different probes**, each probe having **a unique label** attached thereto, each label including at least one carbon nanotube*".

Fisher does not teach or suggest such a library. In particular, Fisher does not teach or suggest a library including **100 or more different probes**. Nor does Fisher teach or suggest that each probe has **a unique label** attached thereto, each label including at least one carbon nanotube.

For at least these reasons, claim 5 and its dependent claims are believed to be allowable over Fisher.